

### **Amendments to the Claims**

This listing of claims replaces all prior versions and listings of claims in the application.

### **Listing of Claims**

1. (Currently Amended) A Bayer process, comprising treating any one or more of:  
(a) Bayer liquor or liquors produced in the process, (b) precipitated aluminium trihydrate particles produced in the process, and (c) other solids added to or produced in the process, with ultrasonic energy ~~and destroying~~ to destroy organics in the liquor or liquors, on the precipitated aluminium trihydrate particles, and on the other solids.
2. (Previously Presented) The process of claim 1 wherein the treatment step is carried out on a Bayer liquor or liquors and/or precipitated aluminium trihydrate particles from any part of the Bayer process.
3. (Previously Presented) The process of claim 1 wherein the treatment step is carried out on side streams of the Bayer liquor or liquors from any part of the Bayer process.
4. (Currently Amended) The process of claim 1 wherein the treatment step is carried out on a portion of the Bayer liquor or liquors and/or precipitated aluminium trihydrate particles and/or other solids that have relatively high concentrations of organics compared to other portions of the Bayer liquors and particles in the process.
5. (Previously Presented) The process of claim 1 wherein the precipitated aluminium trihydrate particles are intermediate and fine seed particles that are separated from a precipitation slurry from a precipitation step of the Bayer process.
6. (Previously Presented) The process of claim 1 wherein the other solids is a collector material for organics.

7. (Currently Amended) The process of claim 6 wherein the treatment step includes separating the collector material with attached organics from the Bayer liquor or liquors into a side stream and treating the side stream with ultrasonic energy ~~and destroying~~ to destroy organics on the collector material.

8. (Previously Presented) The process of claim 7 wherein the treatment step includes regenerating the collector material for reuse in the process to collect more organics for ultrasonic energy treatment.

9. (Previously Presented) The process of claim 6 wherein the collector material includes resins and activated carbon.

10. (Previously Presented) The process of claim 6 wherein the collector material includes particles or beads of collector material.

11. (Previously Presented) The process of claim 10 wherein the particles or beads of collector material are sufficiently large to be readily separated from Bayer liquor.

12. (Previously Presented) The process of claim 6 wherein the collector material is a material that has a higher density than Bayer liquor to facilitate separation from Bayer liquor by settling.

13. (Previously Presented) The process of claim 6 wherein the collector material is a material that has a lower density than Bayer liquor and/or is hydrophobic to facilitate separation from Bayer liquor by flotation.

14. (Previously Presented) The process of claim 6 wherein the collector material is a material that can be separated magnetically.

15. (Currently Amended) The process of claim 14 wherein the collector material includes fine particles prepared by applying ~~an organic/polymer~~ a coating onto fine precipitated iron containing particles.

16. (Currently Amended) The process of claim 1 wherein the treatment step includes treating the Bayer liquor or liquors and/or precipitated aluminium trihydrate particles and/or other solids with ultrasonic energy of sufficiently high energy that ~~[[it]]~~ the ultrasonic energy causes cavitation in Bayer liquor or at the surface of the particles.

17. (Currently Amended) The process of claim 1 wherein the treatment step includes treating the Bayer liquor or liquors and/or precipitated aluminium trihydrate particles and/or other solids with a continuous stream of ultrasonic energy or pulses ~~stream~~ of ultrasonic energy.

18. (Currently Amended) A Bayer process, comprising treating Bayer liquor or liquors produced in the process with ultrasonic energy ~~and destroying~~ to destroy organics in the liquor or liquors.

19. (Currently Amended) A Bayer process, comprising treating precipitated aluminium trihydrate particles produced in the process with ultrasonic energy ~~and destroying~~ to destroy organics on the particles.

20. (Previously Presented) A Bayer process, comprising treating a collector material for organics added to the process with ultrasonic energy ~~and destroying~~ to destroy organics on the collector material.

21. (New) A Bayer process comprising a treatment step for seed particles of aluminium trihydrate particles that have been separated from a precipitation slurry produced in a precipitation step in the process and are transferred to the precipitation step, with the treatment step comprising treating seed particles or a wash solution produced after washing the seed particles with ultrasonic energy to destroy organics.

22. (New) A Bayer process comprising a treatment step for solids, other than precipitated aluminium trihydrate particles, that are added to or produced in the process and are a collector material for organics, with the treatment step comprising treating the collector material with ultrasonic energy to destroy organics on the collector material.

23. (New) The process of claim 22 wherein the treatment step includes separating the collector material with attached organics from the Bayer liquor or liquors into a side stream and treating the side stream with ultrasonic energy to destroy organics on the collector material.

24. (New) The process of claim 23 wherein the treatment step includes regenerating the collector material for reuse in the process to collect more organics for ultrasonic energy treatment.

25. (New) The process of claim 22 wherein the collector material includes resins and activated carbon.

26. (New) The process of claim 22 wherein the collector material includes particles or beads of collector material.

27. (New) The process of claim 26 wherein the particles or beads of collector material are sufficiently large to be readily separated from Bayer liquor.

28. (New) The process of claim 22 wherein the collector material is a material that has a higher density than Bayer liquor to facilitate separation from Bayer liquor by settling.

29. (New) The process of claim 22 wherein the collector material is a material that has a lower density than Bayer liquor and/or is hydrophobic to facilitate separation from Bayer liquor by flotation.

30. (New) The process of claim 22 wherein the collector material is a material that can be separated magnetically.

31. (New) The process of claim 30 wherein the collector material includes fine particles prepared by applying a coating onto fine precipitated iron containing particles.